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We welcome articles, news, cartoons/illustrations for publication in MERLIN.

If you are concerned about what is happening to the environment around you, then come, join us in our efforts for a better world. Give us a helping hand in the club's activities.

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BEYOND FOUR WALLS
When you don't want to be stung...

Cover Illustration: The Chestnutbellied Nuthatch *Sitta castanea,* belongs to a family of birds called Nuthatches that eke out their living by picking insects from the bark of trees, while creeping down tree trunks in mouse-like fashion. This particular species, found throughout India in well-wooded tracts including mango groves, hunts for grubs, spiders and insects lurking in holes and crevices in the bark, occasionally also taking the kernel of seeds and nuts. The bird is short-tailed, with relatively long, pointed bill. Its upper parts are slaty blue, the under parts being deep chestnut. A thick, black stripe runs through the eye and backwards to the neck. The female is generally paler. This species is a member of the 'mixed hunting parties' consisting of different bird species seen in a forest.

Artist: S. Subramanya

The Editorial Page

From the Editor's Desk

India's wildlife doesn't seem to be seeing daylight. Yesterday, it was the rhino face-to-face against a surprise assailant – nature. Today, it is the antelopes against the most dangerous creature on earth.

It is about the furore over the killing of blackbuck and Chinkara by film star Salman Khan which almost turned into a storm. Although it is a very saddening aspect to any wildlife-lover, firstly because of the loss of these endangered animals, and secondly as it is an incitement to more such indulgences by the "rich ruffians" in the future, it has come as a blessing in disguise, at least for the present case. Loss of the animals aside, any conservationist would agree that the guilty would have gone scot-free but for the fact that the hunting was done in an area which has been inhabited for centuries by the true conservationist community, the Bishnoi. Added to this, Rajasthan's Minister of State for Forests, happens to be from the same community.

Whatever the facts, there are umpteen loopholes in the Wildlife Act of 1972. So there is no place for complacency. In today's India, a criminal is not so hateful to the common mind, unlike before, which is an appalling development. Such being the state of affairs, things will go from bad to worse if action is not initiated immediately on a war footing. First of all, the act of 1972 should be modified and made stronger so that there is no escape from punishment for such offenders in future. But more importantly, the act, once amended, should be fully implemented.

As we have seen in the past few days, the incidents that occurred in Jodhpur show that "if the law doesn't, the people will". This should serve as a warning, in particular to other villains who might plan to embark on such adventure and in general, to the film industry which has had a dubious track record of atrocities on wildlife till date.

Commentary

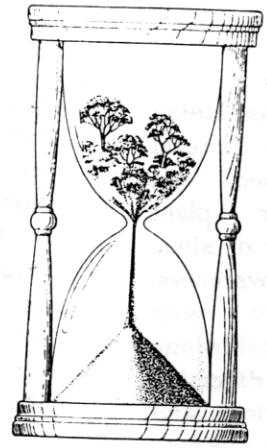
If statues were like humans, we would have had Queen Victoria's complaining about noise pollution and disturbance! That's the extent to which Bangaloreans' 'Dear Cubbon Park' has been flooded by the human storm. Right from school kid to old man, it's been "Save Cubbon Park". Night and Day. Monday to Sunday.

While there have been groups which have used the campaign to their advantage (read it as bash, party, publicity gimmick etc.,), there have also been serious bipeds among scientists, entomologists, ornithologists, botanists and their clan. These people have tried to diligently chart the park from tree to bird to butterfly to ant. Cynics may be having a field day, but the noise is not about waking up Queen Victoria or trying to save that little piece of land that the legislators are raring to eat (virtually!), but if the signs are anything to go by, it may well be that the common man has started ringing the bell. Listen to that, ministers and thy clan!

T. Hemanth

Article

Threatened Plants



Plants are fundamental to our survival. They convert energy from sunlight into food that is consumed by multitudes of organisms including man. They also absorb carbon dioxide in the air and release oxygen that is required by most members of the animal kingdom. Apart from this, they provide us with food, construction materials, fuel fibres, medicines and cosmetics. Last but not least, plants beautify our world.

The number of species of plants inhabiting earth can only be estimated, since in some areas of the world such as South America, many thousands of species are believed to be still unidentified. However, estimates place the number identified as of today, to be about 3,80,000. Of these, about 2,50,000 are flowering plants and the rest comprise of more primitive plants including ferns, seaweeds and mosses.

Threats to plants

The greatest diversity of plant species occurs in the tropics, gradually diminishing towards the polar regions, and it is in the rainforests of the tropics that the loss is occurring at a rapid rate. In fact, clearance of a ridge top in Peru led to the loss of 90 plant species which were endemic to the area.

Worldwide, it is estimated that about 25,000 species are already very rare or under threat of extinction, and if present trends continue, 40,000 species may be lost, or their numbers severely reduced by the middle of the next century. The causes include clearing of such habitats as forests and grasslands for construction of roads and buildings and most importantly, for agriculture to feed the ever-increasing human population. Additionally, the use of herbicides and pesticides; the demand for raw materials, notably timber; collecting of wild plants for commercial purposes; the introduction of exotic (non-native) species which compete with and replace native vegetation and the effects of pollution, particularly acid rain, are all severely devastating plant species. Many of the lost species may be potentially valuable sources of food, raw materials and medicines. Often

the wild relatives of cultivated species contain genetic material, which through plant breeding can help the cultivated plants resist diseases and droughts. This loss of the 'gene pool' will perhaps be the most devastating legacy of humans in the 21st century.

Conserving plants

In 1984 WWF and the International Union for Conservation of Nature and Natural Resources (IUCN) established an international programme for plant conservation. This had a number of aims, including raising public awareness, assisting developing countries with conservation measures and establishing gene banks to preserve genetic diversity. Other aims included conserving and monitoring valuable plants, establishing protected areas in a number of countries and assisting the work of botanic gardens. Partly as a result of this last project, in 1989 the Botanical Gardens Conservation Strategy was launched, which will enable botanic gardens worldwide to work together to identify, monitor and conserve the world's plants. In 1990, the Joint Plant Programme of WWF and IUCN was disbanded and the two organisations have developed their own individual programmes, through continuing to co-operate closely. WWF has identified a number of priorities for action, including working towards protecting the most valuable plant sites, finding ways of integrating use of plants and conservation programmess, controlling invading species and tackling devastating trade in wild plants!

Courtesy: *World Wide Fund for Nature – UK*

An Appeal

Dear Readers,

As you all know, MERLIN has been around for such a long time (a decade!), thanks to your whole-hearted support and encouragement. Having come through all the storms unscathed, we would not only like to keep this effort alive, but also to make it a fruitful one. To put things in better perspective, we would like to make MERLIN a "mouth-piece" for the cause of our environment. With the limited infrastructure available, the coverage is envisaged to be at least the region of Karnataka.

In this regard, we appeal to you to send in write-ups on any changes occurring to the environment around you, whether for the better or for the worse. For example, it could be illegal felling in your neighbour's estate or the move to build a road through an ecologically sensitive habitat near your home. Please ensure that the details sent are authentic and accurate since our principle has **always** been to publish material that is factually correct. The individuals/organizations shall be given due credits for material published unless they choose to remain anonymous for certain reasons.

In addition to this, we would like to begin a "Profile" section where a particular individual or organization that has worked/been working in the fields of wildlife study/environment conservation, will be introduced for the benefit of our other readers. This write-up could be up to a thousand words in length. Of course, the success of this section is subject to your continued support and co-operation. We earnestly hope that you will stand by us and make this initiative a grand success.

- Ed.

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From the Red Data Book

The Whitewinged Black Tit

The Tits are a group of small sparrow-sized birds whose diet consists of insects, nuts and berries. India is represented by 11 species and among them, the Whitewinged Black Tit *Parus nuchalis,* also called Whitenaped Tit, is the most threatened species. Being endemic to India, it has a restricted range with two disjunct populations – one known from an area in north-western India covering central and south-central Rajasthan (Jodhpur, Nagpur, Jaipur, Ajmer, Pali, Jalore and Sirohi districts), Kutch and northern Gujarat (Banas Kantha and Mahesana districts); the other in southern India covering eastern Ghats east of Nellore in Andhra Pradesh, west-central and south Karnataka (Dharwad and Bangalore districts) and northern Tamil Nadu (Periyar and Nilgiris districts). It has been recorded once each from the eastern Ghats west of Nellore, Bangalore, Dharwad and Satyamangala. In recent years, it has been sighted at several places in Gujarat and Rajasthan and a few localities in South India. In Karnataka, it has been sighted at Dharwad, Anshi National Park near Dandeli and in the Cauvery River Valley (Sangam) south of Bangalore. In Tamil Nadu, it has been found at Satyamangala and more recently at Masinagudi in the Mudumalai Wildlife Sanctuary. However, it no longer occurs in Bangalore.

The Whitenaped Tit is distinctively black-and-white, has glossy blue-black upper parts with a prominent white patch on the nape. It has a white pattern on its wings and the cheeks; sides of neck and outer tail feathers are all white. A broad black band passes from chin to base of tail on its under side. The sexes are alike. Wherever it occurs, it is known to be patchily distributed in low densities in suitable habitats, especially in Rajasthan and Gujarat, but is nowhere common. During 1943-44, Salim Ali found it to be very rare during his surveys in the Kutch region, and this gloomy situation continues even today. Its status in South India is not properly understood, although it is supposed to be rare.

Generally, this bird is known to inhabit very dry facies of broken stony and hummocky semi-desert country well covered with jungle of *Acacia, Prosopis* and *Salvadora.* In Gujarat, its preferred habitat is tropical thorn scrub forest of *Acacia, Prosopis, Zizyphus, Capparis* and *Salvadora.* In the Cauvery River Valley, it has been observed in dry deciduous jungle dominated by

Albizzia and *Acacia* trees and *Solanum* bushes.

The birds are invariably found in pairs or family parties of four or five, the individuals keeping in contact with a clear musical whistle. These call-notes are an indication of the presence of the birds in the area, especially during the breeding season. Although known to be very shy, in the Cauvery Valley area, the birds were found to be tolerant to the noisy vehicular traffic on a fairly busy road running through the area. Their diet mainly consists of caterpillars, insect pupae, beetles, weevils and spiders. Additionally, they take the fruit of *Salvadora* and the nectar of *Capparis*.

The bird roosts in natural hollows or fissures in dead *Acacia* trees and shows a strong fidelity to roost sites. For example, one individual is known to have roosted inside a hole in the crossbar of a gate in Bhujia hills, Kutch. Here, it is always found to be associated with dead and decaying *Acacia* trees, where it roosts in holes originally carved out by Mahratta Woodpeckers. It is known to be monogamous and breeds during monsoon, with July-August being the most favoured months. Nests have been found in old, abandoned woodpecker holes at about 2.5 to 4 metres from the ground, usually the same hole being reused for subsequent broods. Sometimes, the roosting sites are used for nesting as well.

This species is under serious threat due to causes like habitat loss, fragmentation and degradation of forestland as a result of developmental activities and possible nest-site limitation. In Kutch, the tropical thorn forest, which is its habitat, is under threat from deforestation owing to local requirement of fodder, fuel wood and clearing of forestland for cultivation. One important factor contributing to this degradation is the use of *Acacia* twigs as toothbrushes by nearly 50 percent of the local population of about 12,00,000. Estimates place the number of trees lopped each day for this purpose at 100. While the construction of 43 cement factories is taking its toll of the habitat in the Narayan Sarovar Chinkara sanctuary, stone quarrying and mining operations are spelling doom for scrub forests in the Mahesana district in Gujarat and Ajmer in Rajasthan. Also competition for nest-holes by other secondary hole-nesters like Brahminy Mynas and Yellowthroated Sparrows is posing nest-site limitations on the species.

So far, no measures have been taken to save the species or its habitat. Towards this, there is an urgent need to establish a network of protected areas in its range. In addition, local people need to be educated and convinced of the conservation needs of the species and involved in conservation efforts. To meet the local needs of fuel wood and fodder, social forestry through wasteland development and creation of village forests is to be mooted. As part of easing pressure on the trees used for nesting by the species, fuel-efficient stoves need to be introduced. A major project funding has to be initiated to provide cheap toothbrush and tooth powder as a substitute to *Acacia* twigs in areas where its use is extensive. Lastly, all developmental activities detrimental to the survival of this bird should be stopped in concurrence with the respective state governments.

- Dr. S. Subramanya

Author is Associate Professor at the University of Agricultural Sciences, Bangalore. He has also been a leading ornithologist who has worked on Indian birds and has extensively contributed to our valuable knowledge of the birds of Karnataka (in particular, Bangalore). He has published a number of scientific papers in leading journals. If any you have any sightings of this species please write to the Merlin Nature club or to the author at 231, chitramala apartments, Byrasandra, Jayanagar 3rd block east, Bangalore-560041. Tel: 665 8489. Email: subbus@bgl.vsnl.net.in

Factfile

The Bounty from Bark and Sap

Trees have a remarkable ability to repair damage and compensate for losses. It is this resilient property that allows man to tap the trees for their fluids and bark on a continuous basis.

One of the most delicious tree products is maple sugar, made from the sap of the sugar maple. This sap rises in the trees during late winter and early spring. The productivity is highest - up to a hundred drops a minute - when the days are warm and the nights cold. But everything comes at a price - the liquid is so watery that at least 40 gallons of it are required to make one gallon of syrup.

An individual rubber tree can be tapped for more than 20 years. But it requires a period of rest between tappings - about a day or so. Cork is obtained from the cork oak, a tree native to Mediterranean Europe and Africa. The cells in its bark have gaps that are filled with air and hence it makes a very good insulating material. To get the cork, the bark is carefully peeled off and this is done only once every 10 years to avoid damage to the tree. Cinnamon, the fragrant spice from India and Sri Lanka, comes from the bark of certain trees belonging to the laurel family. Since the most productive bark grows on twigs, the trees are regularly pruned to stimulate twig growth. While Quinine, used in the treatment of malaria, comes from the bark of Cinchona, a South American tree, the active ingredient in Aspirin formerly came from willow bark.

Courtesy: *Joy of Nature*

Did you know?

- The embryo sac in the shark is called a 'Mermaid's Purse'.
- Sharks cannot stay afloat like other fishes unless they keep swimming actively because they do not possess the air-filled apparatus present in the latter that can increase buoyancy

QUIZ #11

1. What purposes do a butterfly's antennae serve?
2. Why do beehives have hexagon-shaped cells?

Answers to Quiz #10:

1. Although to a layman, the flight in V-formation seen in birds represents an aesthetic aspect of nature, in reality it serves a very useful purpose. The members of a flock use the air currents stirred up by others in the lead, thus reducing the effort required to keep them adrift. Also, members take turns to lead the flock, thereby relieving burden off a few individuals. This is an important step in saving energy during migration.
2. According to late Dr. Salim Ali in his *The Book of Indian Birds*, India's best songster is supposed to be the **Greywinged Blackbird** *Turdus boulboul* of the Himalayas.

Here and There

Periyar to come under the Axe... Yet Again!

Now, it is Periyar's turn to suffer, again. A Government Order has granted permission to one Mr. Chokalingam, Managing Director, Srinivasa Estates Pvt. Ltd., Madurai to transport timber from Andipatti Taluk to Takil Nadu through the core area of the Periyar Tiger Reserve. This proposal had been opposed by a group called Nature Lover's Movement.

This order might have far-reaching implications that might affect policies in other Indian states, says Mr. Bittu Sahgal of *Sanctuary Asia* magazine. He says that for years, the World Bank has been pressurising the Indian Government to loosen the laws governing the transport of timber.

This news follows accusations that the same financial organization has been responsible for replacing healthy local species of trees with eucalyptus in the Andhra Pradesh Forestry Project.

India's 48 Tree Species Face Extinction

According to a recent report in the journal *Science*, about ten percent of the world's one lakh tree species are facing the threat of extinction.

The *World List of Threatened Trees* prepared by the UK-based World Conservation Monitoring Centre (WCMC), points to 976 critically endangered species and thousands of others that are under threat.

Malaysia ranks highest in the number of endangered species with 197, followed by Indonesia with 121, India with 48 and Brazil with 38. A few species like *Diospyros angulata* of the Mauritius and *Carpinus putoensis* of China are on the edge with one individual each left.

The journal further describes the present situation as "extremely worrying" since the rate of extinction is far higher than what it was in the past. Statistics given by researchers put the percentage of the trees in the list which are not subject to any conservation measures at 75. Also, only 12 % of them have been recorded in protected areas and 8 % are cultivated. The list includes some well-known tree species like African and Big-leafed Mahogany, Ebony, Frankincense and the South American Pau Brazil Tree *Caesalpinia echinata*, which is the source of a wine-red dye.

Source: *Natural History of South Asia*

Request for Renewal

We request our readers to renew their subscription to MERLIN for the year 1999 by sending a M.O/D.D/Cheque of Rs. 60/- (add Rs. 25/- towards postal charges for outstation cheques) drawn in favour of Merlin Nature Club payable at Bangalore. Payments should be sent to Merlin Nature Club, 13, 8th cross, 3oth main, Sarakki I.T.I Layout, J. P. Nagar I phase, Bangalore-560 078 tel: 664 4682. If you are sending the payment by M.O please duly fill up your from address in the space provided for communication column. Please introduce atleast a friend or two to MERLIN or send a gift subscription. - Secretary.

When you don't want to be stung...

When the naturalist is in the wilderness, he or she definitely has atleast one in ten chances of being stung or bitten by some creature, accidentally or otherwise. Hence, it is always beneficial to know how to avoid such 'painful' confrontations.

Of the 'stingers', of course the bees and wasps stand out for their painful stings. As summer advances, there is a flurry of activity in bee and wasp colonies and the possibilities of stings are more at that time. So here are a few simple tips to follow in the field:

1. Insects are attracted by bright colours. Thus Khaki is an ideal clothing fabric to wear when out in the field - firstly as it is pale in colour and secondly, as it is not easily penetrated by an insect's sting.

2. Do not wear perfumes, lotions and hair sprays as this might attract stinging and biting insects.

3. If a bee or wasp flies into your car, do not panic and start speeding. Instead, open all the windows and slow down the vehicle. This will give an opportunity for the insect to leave.

4. If you are in a field when attacked by a swarm of bees from a disturbed nest, try running through a wooded or shaded area where there is ample scope for speedy escape under the cover of leaves and branches.

5. Wasps are attracted by food, and many species feed their larvae on the refuse from picnics. If a wasp wants part of your food, it is wise to give it to the insect and hope that it will go away.

6. If a person has a strong reaction after being stung or bitten, the situation is a serious one - immediately rush for medical help.